REMARKS/ARGUMENTS

Claim Amendments

The Applicant has amended claim 1 to recite a statutory process. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-8 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

Claim Rejections – 35 U.S.C. § 101

Claims 1-8 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. The Applicant has amended claim 1 to recite a statutory process. Support for this amendment is found in Figure 2, page 2, lines 10-16. Claims 2-8 depend from claim 1 and thus include the limitations of claim 1. The Applicant respectfully requests reconsideration and the allowance of these claims.

Claim Rejections – 35 U.S.C. § 103 (a)

Claims 1-2, 4-5, 7-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee (US Patent 5,796,786) in view of Mizoguchi (US Patent 4,859,956). The Applicant respectfully traverses the rejection of these claims.

The Lee and Mizoguchi references are cited as rendering claim 1 obvious to one of ordinary skills. The Lee reference is cited for disclosing demodulating digital data using M'ary QAM. Mizoguchi is cited for disclosing approximation of an error control signal by a real quadrature component of an error vector utilizing the following steps of claim 1: "if a detected symbol vector falls within a first sector delimited by two lines crossing an origin and the first sector being symmetrical to the imaginary axis, approximating error control signal by the imaginary quadrature component of the error vector, and if the detected symbol vector falls within a second sector in the complex plane surrounding the real axis the second sector being delimited by at least two lines crossing origin and the second sector being symmetrical to the real axis".

The cited portions of Mizoguchi point to Figure 10 as disclosing the area surrounding the Q axis and also to two lines crossing the origin. Then in parentheses

and italicized text, the Examiner quotes statements that are not actually found in the cited portion of Mizoguchi. The Applicant respectfully submits that the rejection related to the Mizoguchi reference appears to be based on Official Notice as there are no particular cites provided. If the Examiner is taking Official Notice, in order preserve the Applicant's right to traverse this assertion in later actions, the Applicant must traverse this assertion in this Office Action. Therefore, the Applicant respectfully objects to the Examiner's use of official notice if the italicized text is based on personal knowledge of the Examiner.

Under MPEP § 2144.03, official notice may only be taken of "facts outside of the record which are capable of instant and unquestionable demonstration as being 'well-known' in the art." When a rejection is based on facts within the personal knowledge of the Examiner, the facts must be as specific as possible, and the reference must be supported, when called for by the Applicant, by an affidavit of the Examiner, which may be subject to explanation by the Applicant. 37 CFR 1.104(d)(2).

The Applicant notes that the Mizoguchi reference deals with finding constellation points outside a special "octangular" constellation introduced by Mizoguchi. The object of Mizoguchi is to "...provide a validity decision circuit which is capable of correctly deciding validity of an error signal produced from a multilevel quadrature amplitude demodulator." (Summary) The octangular constellation is specific to Mizoguchi.

The Applicant submits that the combination of Lee and Mizoguchi do not actually teach or suggest a method for estimating a transmitted symbol as disclosed by claim 1. For instance Mizoguchi states, "[I]n FIG. 9, the first through the fourth binary discrimination signals 80 to 83 are delivered to the OR gate 77. The OR gate 77 produces a decision signal DS with the logic one value when at least one of the first through the fourth discrimination signals 80 to 83 has the logic one value. Otherwise, the decision signal DS has the logic zero value. As described above, the validity decision circuit 40 can produce the decision signal DS without conversion of the octangular arrangement to the square signal point arrangement." Col. 14, lines 1 - 10:

Also; "The decision circuit 93 produces a decision signal DS. When the reception signal point is in one of the first through the sixth regions, the decision signal DS is

given the logic one value. The decision signal DS of the logic one value indicates that at least one of the sixth and the seventh bits EP1, EP2, EQ1, and EQ2 is valid that has the logic one value. In other words, the decision signal DS of the logic one value indicates that at least one of the first and the second phase deviation signals EP and EQ (FIG. 8), namely, error signals, is valid that has the logic one value." (col. 15, line 6 – 16)

Taking into consideration the above excerpts from the Mizoguchi reference, the combination of Lee and Mizoguchi does not teach or suggest at least the error signal approximation as defined in the present claims. As stated in MPEP 2143 –"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

This being the case the Applicant respectfully requests the allowance of claim 1 and the respective dependent claims.
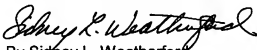
Allowable Subject Matter

The Applicant notes with appreciation the conditional allowance of claims 3 and 6. No amendments have been made to narrow the scope of the pending claims or to create any sort of estoppel.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,

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